SESSION 6 - NORTH EAST FARMING

1. THE UPLANDS IN THE 16TH CENTURY

By the late 15th century, the ruined economy and lawless state of the Border area resulted in the rise of a clan-based social system in the western upland districts of Northumberland.

The normal system of lordship and government had virtually collapsed in the remoter parts of the region, such as Redesdale and Tynedale.

More than two centuries of warfare and the consequent disappearance of dual nationality and cross-Border estate-holding had dramatically changed the pattern of landownership.

The Lordship of Tynedale, for instance, had been held traditionally by the King of Scots. In the period between 1296 and 1371, Tynedale changed hands between no less than eight lords.

By the end of the 14th century, the Umfravilles had finally given up their battle to hold the Lordship of Redesdale. They were only one among several prominent Northumbrian families ruined by the conflict.

The basic institution that had become common to the so-called Debateable Lands on both sides of the Border was the kin-group known as the "surname" like the Charltons, Robsons, Croziers, Reeds and Halls. The members of the group were all related to and bore the name of an acknowledged "head man" who could call on them to fight or to raid their neighbours on either side of the Border. They are sometimes also known as the riding families, but more often as Border reivers. To “reive” is to steal.

Upland regions like Redesdale and Tynedale depended on a pastoral economy. The people lived in small, scattered and isolated hamlets and only small areas were fit to be cultivated for arable farming that could generate substantial revenues to support the local land-lords or head-men.

Life was tough and the people were poor. What little wealth there was was in the form of cattle and sheep.

Upland farming was carried out by a method known as "transhumance". In the winter, the cattle were kept on common meadowlands close by the settlements in the valleys, but in summer they were transferred to the hillside pastures, or "shielings". The herdsmen lived in temporary huts, or “shiels” during these summer months.

In such conditions, there was little demand for manufactured goods and so there was no opportunity for secondary employment. In other parts of the country, farmers and their families were able to add to their income by weaving, pottery, shoemaking or similar work.

Poverty in the upland areas of the North East was further aggravated by overpopulation and an unusual form of inheritance common in parts of Tynedale and Redesdale, known as "gavelkind" or "partible inheritance".

The general Anglo-Norman rule was for inheritance of the whole estate by the eldest son. Through partible inheritance, *EACH* of the sons inherited an equal portion of the estate. This resulted ultimately in the division of landholdings into tiny separate portions that were unable to sustain a family. However, the fact that each son was a landholder in his own right ensured they would remain on the land, and encouraged an increasing population in the area. Furthermore, each of these landholders was responsible for providing his own military equipment, which guaranteed a local fighting force to defend the frontier.

Border Tenure

The lack of potential revenue and the need to provide manpower for defence resulted in the greater lords accepting, or even encouraging a unique form of land holding called Border Tenure, or Tenant Right.

Unlike the short term leases that had become common elsewhere in the country by the mid-15th century, Tenant Right gave permanent security of tenure. Right of succession to the tenancy was guaranteed to the next generation in return for a small rent together with the commitment "to be at the command of the Keeper to serve in field on horse or foot".

The resulting force of light cavalry, or hobelars, proved indispensable in Anglo-Scottish campaigning.

The 1538 Muster Roll in Northumberland records "391 North Tynedale theves all able with horse and harness and 185 Redesdale men beside all the foot theves".

So notorious were these areas for breeding “thieves” that from 1554 the Newcastle Merchant Adventurers' Company barred anyone born in Redesdale or Tynedale from being accepted as an apprentice in the town.

When there was not a full-scale war was taking place the riding families turned their military skills and equipment to their personal advantage in the part-time occupation of reiving.

As wealth was measured in cattle, and cattle could be moved easily and also eaten, the transfer of assets on the hoof became the common form adopted for the “redistribution of wealth” between neighbouring families.

The presenting of the “Charlton Spur” on special occasions at Hesleyside Castle is a quaint custom that survives from those reiving times. Although ranked among the gentry of Northumberland, the Charltons of Hesleyside were as much involved in cattle-stealing as the next family. If the lady of the household was running out of beef, she presented her lord with a spur on a platter as a broad hint he should think about a shopping trip!

The continuing need for defence against the Scots meant that Border Tenure and Tenant Right was reinforced by successive royal ordinances until the Border itself effectively disappeared with the Union of the Crowns of England and Scotland in 1603.

In the more settled times that followed, landlords were quick to find ways to increase their income by converting Border Tenure to standard copyhold tenancies. Partible inheritance, too, was soon swept away, resulting in enclosure and depopulation of the upland areas.

2. FARMING IN THE LOWLANDS

The "Vision of Piers Plowman", written by William Langland in about 1390, offers an insight into the lives of the poorest peasants in the English countryside in the decades after the Black Death:

"Whatever they save by spinning they spend on rent, or on milk and oatmeal for food. And they themselves are often famished with hunger and wretched with the miseries of winter - cold, sleepless nights, when they get up to rock the cradle cramped in a corner, and rise before dawn to card and comb the wool, to wash and scrub and mend, and wind yarn and peel rushes for their rushlights."

However, the conditions described here were perhaps less likely to apply throughout North East England than in the more heavily populated counties of the midlands and the south.

It is likely that Northumbrian peasants were less oppressed by their situation and came in many cases to mutually acceptable arrangements with their landlords over matters of rent, land tenure and service. This is illustrated by the apparent lack of civil disorder in our region in the late 14th century, a period that was marked by the Peasants' Revolts taking place in other parts of the kingdom.

The Township

PLAN OF SHILBOTTLE TOWNSHIP IN THE 17TH CENTURY.

The plan of Shilbottle shows the layout of a typical lowland township in the 17th century.

In the North East most of the farmland was pasture, and large areas around townships remained as common waste or moor, often well into the 17th century.

Usually more than 50% of township lands was common or waste, a much higher proportion than elsewhere in England.

The cultivated land in the township was classically divided into three large open fields, and the farmers followed a three-year rotation system.

The main crops were wheat (for bread), barley (for ale) and oats, peas and beans (mainly for animal fodder).

In the North East, wheat could only be grown successfully in the fertile coastal plains and river valleys.

Division of the fields

The open fields around the township were divided into "flatts", the northern equivalent of the "furlong".

These sub-divisions usually followed natural features, such as ridges or streams or clumps of trees and they were separated by uncultivated strips of land or by woods.

Each flatt was divided into strips marked out by boundary stones, known as "merk" stones.

The division of the strips between the individual farmers was decided by the "court leet"jury, which comprised freehold tenants of the township.

This practice of maintaining the medieval strip farming boundaries and three-field rotation through the court leet continues in one place in England today – Laxton in Nottinghamshire.

Ox teams and bovates

The fields were ploughed by teams of up to 8 oxen , and these created the "riggs" that are still a common feature in the Northumberland landscape.

Few farmers were substantial enough to own a complete ox-team of their own. The cost of keeping an ox-team was equivalent to buying and maintaining a top-of-the-range combine harvester today, with the added disadvantage that a strong ox needed large quantities of fodder during the winter months, when it could do no productive work. At least a modern tractor doesn't eat op diesel when it's not being driven!

Bondlands and freehold tenements usually comprised one or more bovates or oxgangs (usually 12 or 15 acres), which was considered to be the amount of land that could be cultivated by one ox team.

Common land, woods and waste

Common **pastureland** was used for grazing cattle, particularly the oxen.

The custom of "stints" or "gates" was common, by which each tenant was allowed to graze a specific number of animals on the pasture.

Common **meadowland** was usually situated near a stream, and provided hay for fodder and an area for grazing cattle in summer.

The **woods** and **wasteland** provided valuable sources of stone and timber for building materials, wood for fuel and grazing for pigs, known as "pannage".

Infield and Outfield

Even in the more fertile areas, much of the land was of an intermediate nature. It was capable of cultivation but was not considered suitable for a regular rotation system.

In most of Northumberland and in the Durham dales, until well into the 18th century, farming was carried out according to the infield and outfield system.

The **infield** was intensively cultivated, while the outfield was rough pasture.

When part of the infield became exhausted, an area of the outfield was temporarily brought under cultivation and the exhausted area was allowed to lie fallow for a few seasons to recover its fertility.

3. CHANGING SYSTEMS OF TENURE

As we have seen, a combination of warfare, famine and disease in the 14th and 15th centuries led to a dramatic fall in population and economic activity.

The ravages of the Black Death in the mid-14th century in particular led to changing relationships between tenants and their land-lords.

The surviving tenants began to take on multiple holdings in addition to their existing tenement, by purchasing the leases of neighbouring holdings when the tenant died or fell on hard times. This was known as "engrossing".

Rationalisation of the old strip-farming arrangements was also taking place. Sometimes this was through a process of exchange between neighbouring tenants to create coherent farms, or by dividing the township lands into roughly equal fractions and regrouping the tenants' lands more conveniently.

By these means, a split was opening in some townships between the "haves" and the "have nots" – the yeomen farmers and the less fortunate smallholders.

Changes in lordship and land holding

Between 1550 and 1750 there was a restructuring of lordship and land-holding arrangements.

Some of the old family estates were dispersed as male lines died out, or the estate was lost through bankruptcy or forfeiture.

The Reformation and the Dissolution of the Monasteries allowed the growing class of merchants and industrialists to enter the land market on a big scale, while engrossing allowed some of the more substantial farmers to join the wealthy gentry.

The Civil Wars of the 1640s and the Jacobite Rebellions of the early 18th century resulted in changes in the fortunes of many Northumbrian families as Royalists, Catholics and Jacobite sympathisers in turn suffered confiscation of lands or heavy fines.

The Beginning of Enclosure

By the 17th century, much of the land in the fields around the townships was "worn bare and barren" by constant ploughing and cropping and a system called 'alternate husbandry' - alternating between pasture and arable use - was introduced to improve the fertility of the land.

Other improvements in the early 18th century included increased use of manure and lime, and the introduction of clover and turnips for animal fodder.

The medieval township was surrounded by open fields and common land. What enclosure had taken place in the later Middle Ages was done to provide pasture for sheep or cattle rather than arable cultivation.

A few landowners in the region enclosed land and evicted tenants to make way for sheep, resulting in deserted or contracted villages, but this practice was rarer in the North East than elsewhere in the country because so much land was available for improvement and cultivation..

Between 1550 and 1750 only about 12% of County Durham was enclosed. This was mainly existing cultivated land in township fields or common and the greater part of this enclosure took place by agreement between landlord and tenants, and was considered to be to their mutual benefit.

Almost all of this medieval enclosure took place in the east of County Durham or in the lower valleys of the Tees and Wear.

Enclosure allowed the size and distribution of land holdings to be rationalised, which enabled more efficient farming for the tenants and increased income from rents for the landowner. .

LONG NEWTON ON HANDOUT

Long Newton provides an early example of the division of fields before and after enclosure.

4. THE INDUSTRIAL REVOLUTION

By the end of the 17th century, the North East region was experiencing the first stirrings of the Industrial Revolution.

The rapid expansion of population and commerce in London was creating a growing demand for coal and manufactured goods.

In 1700, the collieries of Durham and Northumberland were producing about 40% of the national output, and the region was able to supply most of London's needs by transporting the coal by sea down the East coast.

Increasing coal production and industrial activity on Tyneside and Wearside created a need for a larger labour force. This began the mass movement of people from the countryside to the towns, which in turn generated demand for food and provided a stimulus for the first wave of large-scale enclosure in the region, to allow more efficient farming methods.

Between 1670 and 1750, the population of the North East rose much more quickly than in most other parts of the country, where corn-production was outstripping demand and prices were falling.

In our region, corn prices were maintained and demand was still strong because of the gradual move of population from the rural villages to the industrial towns and mining areas.

Many landowners in the North East, including old aristocratic families like the Bowes, the Delavals and the Lambtons, were now involved in commerce and industry.

Activities such as coal mining and ship-building required substantial investment, and these funds were obtained by arranging mortgages from banks that had to be serviced by increasing the revenues from the family estates, which meant creating more efficient farms.

The result was that North East England changed from a region devastated by centuries of warfare and economic chaos to the model for industrial development and agricultural improvement.

5. THE 18th CENTURY

More efficient farming meant higher rents could be charged.

In contrast to the static rents that remained common elsewhere in England, Northumbrian rents increased markedly during the 18th century.

Increased rents forced the farmers in our region to improve their methods of production.

Landowners were adopting a more businesslike attitude towards their tenants and became increasingly concerned with improving the fertility of the land. They often added clauses to leases to require the liming and manuring of fields, along with other good farming practices.

The enclosure of open fields, commons and waste land created larger, more viable farms and improved profitability for the farmer and the landowner alike.

Enclosed land allowed more livestock to be kept, resulting in better manuring of the fields which, in turn, increased crop yields.

REFER TO SHILBOTTLE AND LONG NEWTON EXAMPLES

As the demand grew in the 18th century for more produce and more wool to feed and clothe the growing urban population, and as the amount of available land reduced, resistance to enclosure increased and it became common for landowners to push through enclosure of common land by means of Private Acts of Parliament.

Between 1760 and 1810 some 250,000 acres of land in Northumberland and Durham was enclosed by Acts of Parliament, mainly common pastureland or waste.

This rapid growth of enclosure was the result of high cereal prices during the period of almost constant warfare with France between 1750 and 1815, as well as the continuing national growth in Britain's population.

The greater profits to be made from cereal crops stimulated a move from pastoral farming to grain production.

Marginal land in the intermediate and upland areas of the region began to be exploited more systematically.

Vast areas were enclosed and put under the plough, and rented out at four to ten times their former value.

Despite this, some 15% of County Durham and a much higher proportion of Northumberland was never enclosed.

However, from the mid-18th century even some of the more marginal lands in Northumberland were being exploited.

6. THE DELAVAL ESTATE AT FORD

REFER TO PLAN OF DELAVAL ESTATE AT FORD IN 1760

A good example is the Ford Estate, owned by the Delaval family.

By the late 1750s, Sir Francis Blake-Delaval had converted a £5-9,000 a year profit into a huge debt of £45,000. Trustees were appointed to make the estate more profitable, the most active of whom was Sir Francis's brother, John Hussey Delaval.

Francis appreciated that agriculture could be big business, even though the estate at Ford was only peripheral to the family's main interests in mining, glass-making, shipping and other activities at Hartley and Delaval.

In the 1750s, at least 4,000 of Ford's 7,000 acres were described as "entirely open and unenclosed", mostly covered with furze, scrub and rough sheep walk. There was hardly a hedge, tree or fence on the estate.

REFER TO KIMMERSTON PLAN, 1784

Take the example of one of the estate's farms at Kimmerston;

In 1762, 68% of the land at Kimmerston was valued at less than the average value of the land on the farm. 45 acres at Kimmerston were valued at 14/-, while 143 acres were valued at only 2/- an acre.

The infield/outfield farming system was being practised on the farm, as it was throughout the whole Ford Estate.

The Plan of Kimmerston in 1784 shows how the infield grounds were divided into manageable enclosed fields and a small plantation.

REFER TO PLAN OF CROOKHAM WESTFIELD

In 1763, Crookham West Field was described as the worst farm on the Ford estate, despite the tenants' leases specifying amounts of manure and lime to be used on the fields.

162 acres of the farm was infield, used for growing barley, wheat, oats and peas, and worth 12/- an acre, while 321 acres was outfield rough grazing, worth only 5/- an acre.

A new tenant named Thorburn took over the farm in 1764, but was only interested in the inground.

Francis Delaval realised that sections of the outfield grounds were capable of being brought into productive cultivation by enclosure and sub-dividing into parcels of land. The following year, Delaval's agents took the outground into hand *(demesne)*, enclosing and dividing the land, planting 2.5 miles of hedges and using 803 cartloads of lime to improve the fertility. In 1767, new tenants, the Jeffreys, were found for the re-organised outground fields.

REFER TO ENCAMPMENT PLAN

In 1768, the Delavals purchased lands adjacent to the Ford Estate that had been owned by the Askew family, which comprised a single large farm operated on the infield/outfield system.

The Delaval agents divided the land into two decent sized farms (Heatherslaw and Encampment), plus four smallholdings.

BREAK

7. NEW CROPS, NEW BREEDS AND NEW METHODS

During the 18th century, enclosure became associated with the introduction of new crops, improved breeds of livestock, and new farming methods such as alternate or convertible husbandry and four or five course field rotation.

This was the period of the so-called Agrarian, or Agricultural Revolution and the great farming improvers.

IMAGE – JETHRO TULL'S SEED DRILL

To be truthful, **Jethro Tull** was something of a crank. Most of his machinery didn't work and he believed that fields could continue to produce a single crop such as wheat every year without damaging the soil fertility. But his seed drill was adopted all over the world and was a great improvement on the old method of broadcasting seeds:

An old verse summed up medieval practice of sowing by hand**; "Sow four grains in a row, one for the pigeon, one for the crow, one to rot and one to grow!".** Tull's seed drill was certainly an improvement!

IMAGE – TURNIP TOWNSHEND

Viscount Townshend was an influential aristocratic landowner who championed the introduction of turnips as a fodder crop for livestock and gained him the nickname "Turnip" Townshend. His lead encouraged other landowners, great and small, to experiment.

By the early 1800s, white and Swedish turnips were being grown on many local farms to provide winter feed for animals. Another name for the Swedish Turnip, or Swede, is Ruta Baga, known commonly in Berwick as the "bagie".

Growing the new crops meant hiring workers with new skills.

Berwick Advertiser, 14th February 1846

TO FARM STEWARDS - WANTED AT MAY NEXT

A FARM STEWARD who is thoroughly acquainted with the working of a Turnip Farm. He must be a married man, and be able to produce testimonials of character from his late and present employer.

THOMAS COKE INSPECTING HIS SOUTHDOWN SHEEP

Thomas Coke used some of the new crops the four-course rotation system he introduced to his farms in Norfolk. Wheat was grown in the first year and turnips in the second, to be used for feeding cattle or sheep in the winter. Barley was the crop in the third year, with clover and ryegrass under-sown that was grazed or cut for feed in the fourth year. As a result, more livestock could be kept better fed, which in turn produced quantities of manure to fertilise the fields. Though the system was adopted widely, it was not suited to all soil and climate conditions and in some parts of the country it was more efficient to adopt a three, five or even seven-year rotation system.

Coke was one of the first agriculturalists to adopt the Southdown breed of sheep, which became very popular in Victorian times when auctioneers were perfecting their sales pitches to encourage local farmers to invest in the new improved breeds.

Berwick Advertiser, 12th September 1846

MR. GOODMAN'S SOUTHDOWNS –

On Thursday the 3rd instant, Mr. Samuel Donkin submitted about 120 of the celebrated Chevington Southdowns to public competition.

Mr. Goodman having entertained the company to lunch after his wonted elegant style, and unequivocal proofs having been given of the perfect agreement between 40 years old port, the finest Madeira and the most delicious Southdown mutton, the auction commenced with the most spirited bidding.

IMAGE – ROBERT BAKEWELL AND DISHLEYLEICESTER SHEEP

Although **Robert Bakewell** was only one of many farmers working on the improvement of animal breeds, he was a superb publicist. He invited notable writers and painters to his mansion at Dishley Grange in Leicestershire, where he wined and dined them and was repaid with their glowing descriptions in the periodicals of the day. He held annual viewings, like fashion parades, where he could show off his rams for hire. Three of his best rams were hired out for 400 guineas each in 1789.

Bakewell's New Leicester sheep was adopted in many parts of the country, trebling the average weight of sheep sold in the London markets by 1800.

TABLE - Average Weight of Animals Sold at Smithfield Market in London

	1700	**1800**
Black cattle	166 kg	360 kg
Sheep	13 kg	36 kg
Calves	22 kg	66 kg
Lambs	8 kg	22 kg

PHOTO - WILLIAM SHIEL DODS + PRIZE BULL

By the beginning of Queen Victoria's reign, improved methods of breeding and fattening of livestock had doubled the weight of animals sold in our local livestock markets.

Berwick Advertiser, 20th February 1841

FAT OX – A very large short-horn ox, bred and fed by Mr. Thos Smith of Goswick, has been exhibited during the week in Mr. Kell's yard in Bridge Street previous to being sent off to London for exhibition before the Directors of the English Agricultural Society. The animal is computed, according to measurement, to weigh 180 stones, exclusive of offal. He is six years old in April ensuing. His dimensions are as follows:- Height at shoulder 6 feet: from top of shoulder to rump 6 feet 8 inches; girth, behind the shoulders, 10 feet 3 inches.

PHOTO - The Highland and Agricultural Society Show 1841

The 19th century saw the rise of local and county agricultural shows, which were an important influence in spreading good farming practice.

The most prestigious to take place in Berwick was the Great Show held in 1841, by the Highland and Agricultural Society of Scotland.

Berwick & Kelso Warder, 2nd October 1841

THE GREAT SHOW , THURSDAY 1st October 1841 - By 5 o'clock in the morning, which fortunately was a fine one, the Show Yard presented a most lively and animated appearance. The Leicester sheep were truly splendid, and in number exceeded anything of the kind ever produced, while the hardy Cheviots vied in size and symmetry with the favoured flocks of the more cultivated places. The short horns were noted for their size and fineness of touch, the Highlanders and crosses for their adaptation to almost every situation of soil and climate, while the pigs had been improved by judicious treatment and selection. From the noble bull, to which was awarded the munificent sum of one hundred sovereigns down to the little tenants of the temporary piggeries, and up again to the majestic Horse in the departments suited to the plough, the race-course and the hunting field. In the list of competitors again the premiums varied from the noble Duke of the palace to the industrious tenants of the cottage, each striving against the other with burning zeal and each, we are proud to say, emulating the other in the march of improvement, comfort and contentment.

PHOTO - ROSS'S BUTCHER'S SHOP, SPITTAL

Meat from prize animals exhibited at the Great Show was soon being sold by local butchers.

Berwick Advertiser, 27th November 1841

CHRISTMAS BEEF - WILLIAM WIGHTMAN, Butcher, Wooler and ALEXANDER WIGHTMAN, Butcher, Belford beg to inform their numerous Customers and the Public generally that they have purchased from Colonel Landers, Fenwick Steads, three very superior WEST KYLOES, 6 years old, two of which gained a premium at the late Highland Society's Show at Berwick, and calculated to weigh from 90 to 100 stones each - which they will offer for sale at their respective shops in Belford on Tuesday 14th December, and at Wooler on Thursday the 16th December, and at each of the above places on the first week of January 1842.

Northumberland's Improvers

Arthur Young wrote an influential book on the new farming methods in 1768, which was perhaps less well-read in our region than in other parts of England. It was said that only two copies were sold in Northumberland!

However, Northumberland can boast its own list of great improvers, whose influence on farming practices throughout region and much further afield is undoubted.

Foremost among them were **Matthew and George Culley.**

The brothers were born in the 1740s at Denton, near Darlington, where they worked a small farm. In the 1760s they both made regular visits to Robert Blakewell at Dishley.

The agricultural tour was a popular way of learning the new techniques in the 18th century, and farmers' sons and apprentices like the Culley brothers travelled all over the country to glean the best methods from each area.

Landowners in Northumberland already had quite advanced views on the profitability of their estates and as a result farm tenancies were available in the County on longer leases than elsewhere in the country. Long leases allowed tenants to invest money and effort in establishing improved farming methods and reap the rewards. Glendale, in particular was regarded as one of the most progressive farming areas since Daniel Defoe had visited the area and wrote about its good farming practices in the 1720s.

In 1767 the Culleys took a 21 year lease on West Fenton farm near Wooler and by 1786 their landlord's agent, John Bailey, was remarking: "The Culleys are well known as the best and most intelligent farmers in the north of England". In the same year, George Culley and John Bailey co-authored the Board of Agriculture's Reports on Northumberland and Cumberland. Culley also wrote his authoritative "Observations on Livestock".

By 1798 the Culleys owned 500 cattle and 4,000 sheep worth £1,500, seven times what they had owned in 1767. Eventually they became substantial landowners in their own right with farms bringing in a rent of over £4,000 a year.

George Culley in particular was greedy for a quick profit. His doctrine was to have "as many strings to your bow as you prudently can"!

He was always quick to convert to the most profitable line. In 1801 9% of the Culley farm income came from sheep, 48% from wheat; the following year, 27% was from sheep and only 33% from wheat.

In the 1790s, the Culleys controlled the newly-formed Northumberland Tup Society, and other farmers were forced to set up rival organisations to resist the Culleys' restrictive practices and high hiring charges.

The New Leicester sheep were ideal for the Culleys' purposes. Small and fast-feeding they could be fattened in two years rather than three and so:"make the most money from a given quantity of feed".

PHOTO – BORDER LEICESTER SHEEP

The New Leicester was commonly adopted in Glendale, though the native Cheviot continued to be more suitable on hill-farms.

The New Leicester was crossed with the native Cheviot sheep to produce the Border Leicester that remains one of the most common breeds in our area today.

The Norfolk Rotation system was basic to Glendale's prosperity. Along with this method of farming, new varieties of oats, drilling of barley, peas and beans, and the sowing of spring

wheat allowing the taking of a wheat crop after turnips were all quickly adopted by the Culleys and their apprentices.

However, not all the Culleys' ideas were new or successfully copied. George Culley continued using oxen for ploughing long after most of his neighbours had changed to horses, and his attempt to introduce water meadows from Scotland failed to be adopted elsewhere in the region and his methods of irrigation were considered unprofitable and unnecessary.

Through the activities of the Culleys, and other improving farmers, like the Greys at Milfield, and land talented land-agents, such as John Bailey of Chillingham and John Oxley of Ford, Glendale and north Northumberland became a centre of farming excellence and a mecca for agricultural apprentices from all over Britain.

8. THE COST OF IMPROVEMENT

Large-scale improvements like enclosure, conversion of outfield to cultivated land and the planting of hedges and trees was usually paid for by the land owner, at great expense.

On the Ford Estate some 92 miles of hedges were constructed and 1.87 million trees planted in total.

In return, the landowner could ask much higher rents, that had remained stationary for centuries, and specify in the lease that the tenant must carry out particular farming practices such as liming, manuring and maintenance of buildings and fences.

Of course, the tenant farmer would also expect a decent standard of accommodation, so 18th century estate owners upgraded or rebuilt many of their farm houses and buildings.

This building and maintenance required a pool of skilled workers on the estate, and so some of the newly divided smallholdings were offered to craftsmen as an incentive for them to stay on the estate.

Even so, many of the tenant farmers were bankrupted by the high rents and requirements of the leases, which were particularly expensive and onerous in the early years of the lease when the least profit could be made from the farm.

In some cases at Ford, fields that were valued at 1/- per acre in the 1750s were being rented out in the 1770s for 25/- per acre.

In the areas of the North East where mining and industry took place, farmers could augment their income with secondary employment, working the land in summer and in the mines in winter, or carting coals and other minerals along the horse-drawn waggonways.

PICTURE – Samuelson Reaping Machine, 1862

By the mid-19th century, mechanised reaping machines were replacing the traditional teams of reapers on the local farms

Berwick Journal, 5th October 1861
TRIAL OF REAPING MACHINES
An interesting trial of reaping machines took place on Thursday week, on the farm of E. Henderson, Esq., Lowick, near Beal Station. Although late in the season, there was a large attendance of the first class farmers of North Northumberland. There were seven machines in the field, viz., three by Samuelson of Banbury, three by Brigham and Bickerton of

Tweedmouth, and one by Gardener and Lindsay of Stirling. After the trial, a dinner was provided by Mr. Taylor, Blue Bell Inn, Lowick.

PICTURE - 4-Horse Threshing Machine 1851

Mechanisation also brought a rise in industrial injuries at harvest time.

Berwick Advertiser, 27th August 1864

THRASHING MACHINE ACCIDENT – On Wednesday forenoon, Mr. John Cowe, Spring Gardens, was thrashing corn at Mr. Douglas's machine in the Greenses. After breakfast the workmen returned to the work, Mr. Cowe feeding to the machine. Unknown to any of those engaged in the work, Mr. Cowe's son, six years of age, had at that time been looking among the machinery, and when it was put in motion he was caught among the wheels. The machine gave a jerk, and as it had not been going well n the morning, Mr. Cowe turned to look at the wheels, when he found that his son had become fixed among the wheels and was in a very dangerous position. The unfortunate child was extricated, and was found to be severely cut and bruised about the face and hands, part of one of his fingers being taken off. The assistance of Dr. MacLagan was called in, under whose treatment the sufferer now lies, and is progressing towards recovery.

PHOTO - Steam Threshing Near Eyemouth

From the 1840s, steam began to replace horse-power on the farms. This happened quicker in Northumberland because of the local availability of coal.

9. **HINDS AND BONDAGERS**

In most parts of England by the 18th century there were two main types of farm labourer.

Servants in Husbandry were the agricultural equivalent of the domestic servant. They lived rent free, either with the household or in a cottage on the estate. Contracts were usually annual, but were often extended as a matter of course.

Day labourers were hired as required, on a daily basis, to meet the extra demands of the busiest times in the farming calendar.

However, in North Northumberland and the Borders there was a unique system of hiring servants in husbandry known as bondaging.

By this arrangement, labourers called 'hinds' and 'herds' were hired on a one year contract, and moved frequently between employers. As well as his own labour, the hind had to provide a bondager or female fieldworker who was paid by the day.

The hiring of hinds and bondagers under yearly contracts, encouraged the rapid spread of the Culleys' new ideas to farms throughout the region, as well-motivated hinds sought improved opportunities with new employers, taking with them the best practice from their previous agricultural experience.

The hinds and herds were provided with accommodation, they were allowed to keep some of their own livestock and were paid mainly in kind.

EXAMPLE - **Hind's Terms,** ***1794*** ***(Bailey and Culley)***

2 cows kept, or money in lieu at £3 each
3 bushels of wheat at 5s each
37 bushels of oats at 1s 6d each
12 bushels barley at 2s 6d each
12 bushels rye at 3s 4d each
10 bushels peas at 3s 6d each
24 lbs cast wool at 6d a lb
1 bushel potatoes, planted
A pig tethered £2 4s 0d
Leading coals 5-6 cart loads £1 0s 0d

Total £18 11s 0d a year

By the mid-19th century, the hind's terms were less generous than they had been 60 years earlier/

EXAMPLE - Bond for a Hind 1856-7

"House rent free, coals led.
Cow on pasture in summer, kept in 17th November to 12th May.
Straw and 1 ton of hay in winter.
To be allowed to keep a pig shut up.
Wheat 6 new bolls.
Barley 4 old bolls.
Oats 6 old bolls.
Pease and beans 2 old bolls.
£4 stint money.
1000 yards of potato ground prepared for me in field.
To provide a sufficient woman worker at 10d a day in summer and 8d a day in winter, at 1/6d a day for harvest of 20 days."

The living conditions of hinds and bondagers in Norham and East Ord were described by Rev Dr Gilly in his "Peasantry of the Border", published in 1841

"How often when I have visited these hamlets and cottages, have I been surprised by the contrasts which they exhibited. To look at the exterior you would suppose that they were inhabited by a tribe of savages. Enter the doors, and you will behold an apartment simply supplied with household chattels, and smiling with content.

The cotter and the housewife have done well for themselves which good management can devise. And, in fact, there seems to be a general contribution towards the well-being of our hinds, except by those who provide their habitation.

Thanks to the farmers, they have, for the most part, kind and considerate masters. The reply which a worthy farmer made to me on my asking him what he did to induce his hinds to remain with him, should be characteristic of his order. "I try to make them comfortable, and I overlook little faults in good workmen."

I have resided in several counties, but in none have I seen the relation so admirably adjusted between farmer and labourer, as in Northumberland. Thanks to the capitalists and manufacturers, they have good raiment, comfortable furniture, and gay crockery-ware. Thanks to benevolent societies, they have their little book-shelves, adorned with bibles, books of devotion, and tracts and treatises of useful and entertaining knowledge. And, gratitude to a bountiful Providence, they have fuel in abundance, and a blazing hearth.

..... but alas they have not tenements worthy of such families, as are the pride of our land.

IMAGE = HIND'S COTTAGE

The general character of the best of the old fashioned hind's cottages in this neighbourhood is bad at the best. They have to bring everything with them - partitions, window-frames, fixtures of all kinds, grate, and a substitute for ceiling - for they are, as I have already called them, mere sheds.

They have no byre for their cows, no sties for their pigs, no pumps or wells, nothing to promote cleanliness or comfort. The average size of these sheds is about 24 by 16 (feet). They are dark and unwholesome. The windows do not open, and many of them are not larger than 20 inches by 16. And into this space are crowded eight, ten, and even twelve persons. How they lie down to rest, how they can preserve common decency, how unutterable horrors are avoided, is beyond all conception. The case is aggravated when there is a young woman to be lodged in this confined space, who is not a member of the family, but is hired to do the field work, for which every hind is bound to provide a female. It shames every feeling of propriety, to think that in a room, and with such a space as I have been describing, civilised beings should be herded together without a decent separation of age and sex.

So long as the agricultural system, in this district, requires the hind to find room for a fellow servant of the other sex in his cabin, the least that morality and decency can demand, is, that he should have a second apartment, where the unmarried female and those of a tender age should sleep apart from him and his wife.

10.**CONCLUSION**

In the 19th century, model factory farms were being built all over the region, incorporating labour-saving devices, facilities for steam to power threshing and grinding machinery, indoor accommodation for over-wintering livestock and so on.

Many of these farms still survive and are well worth looking at in detail.

From its devastated state at the end of the 16th century, by the early 18th century the North East of England can certainly be said to have been home to a real revolution in agriculture.

Alongside these advances in agriculture, the region was witnessing the rise of another great revolution far ahead of most other parts of Britain – the Industrial Revolution.